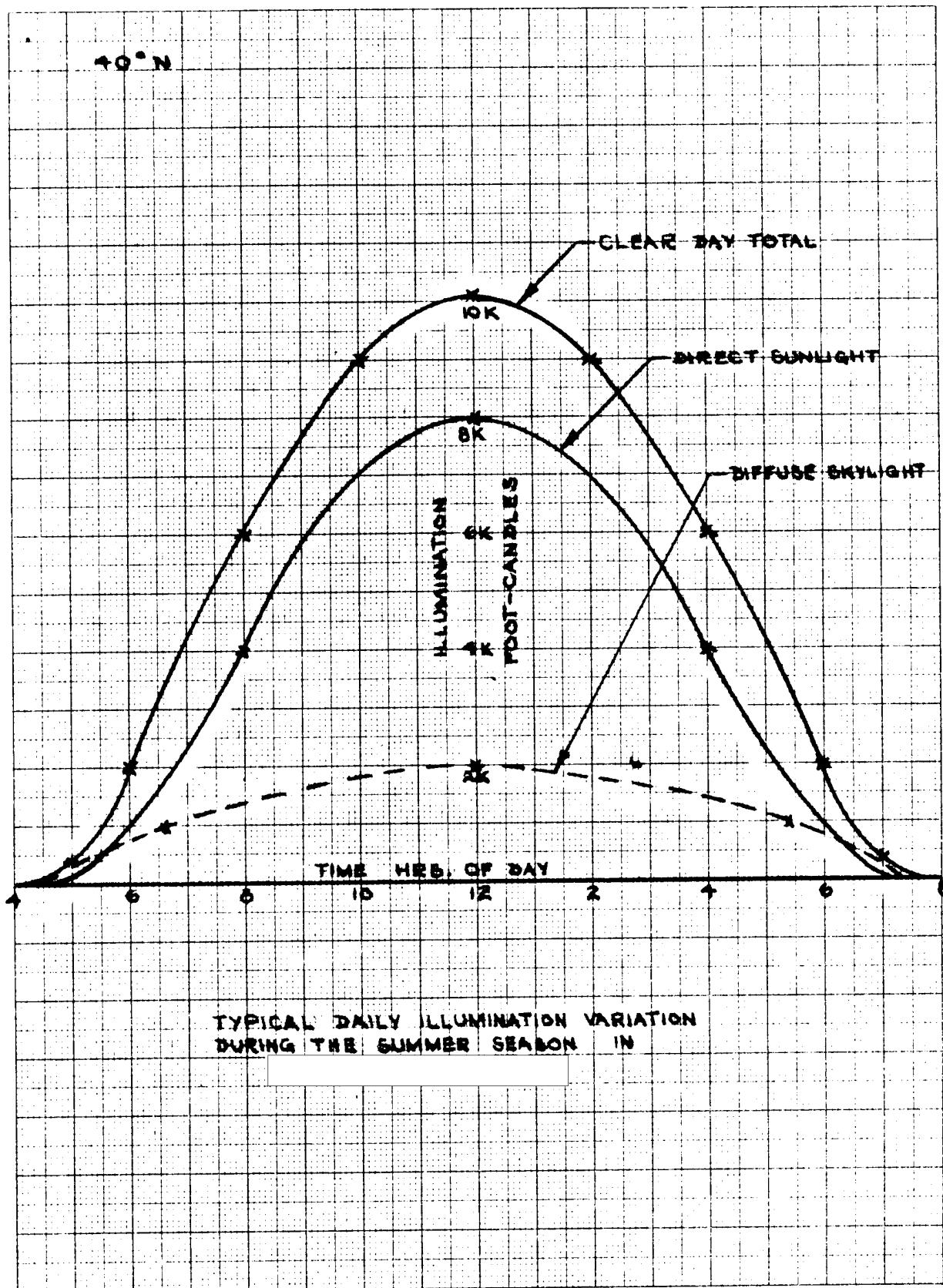


## GENERAL EVALUATION OF EXPOSURE CONTROL SYSTEMS

		<u>IRIS CONTROL</u>		<u>TIME CONTROL</u>		<u>COMBINED CONTROL</u>	
		<u>PRO</u>	<u>CON</u>	<u>PRO</u>	<u>CON</u>	<u>PRO</u>	<u>CON</u>
<u>CONTINUOUS</u>		HIGH STATIC RESOLUTION GREATER DEPTH OF FIELD	GREATER POWER CONSUMPTION LOW SYSTEM RELIABILITY HIGH MECHANICAL COMPLEXITY LESS DYNAMIC RANGE LOW DYNAMIC RESOLUTION	HIGH SYSTEM RELIABILITY HIGH SYSTEM RESOLUTION HIGH DYNAMIC RANGE QUICK DELIVERY	LESS DEPTH OF FIELD LESS STATIC RESOLUTION	MAX. DYNAMIC RANGE CAPABILITY MAX. OPERATING TIME MAX. CONTRAST MAX. RESOLUTION	HIGH COMPLEXITY LESS EQUIPMENT RELIABILITY HIGHER COST LONGER DESIGN & PRODUCTION TIME
<u>STEP</u>		MAX. CONTRAST MAX. RESOLUTION SIMPLICITY RELIABILITY	MORE POWER REQUIREMENT MORE COMPLEXITY LESS INFORMATION CONTEND	SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
<u>OPEN LOOP</u>		SIMPLICITY	INACCURACY LESS RELIABLE				
<u>CLOSE LOOP</u>		MORE RELIABILITY	MORE COMPLEXITY	SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
<u>SINGLE LENS</u>		SIMPLICITY RELIABILITY LOW COST MORE COMPACT	WORK WITH SMALL SPACE				
<u>DUAL LENS</u>		MORE WORKING SPACE BETTER APPROXIMATION	LESS RELIABLE MORE MECHANICAL COMPLEXITY	SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	



STAT

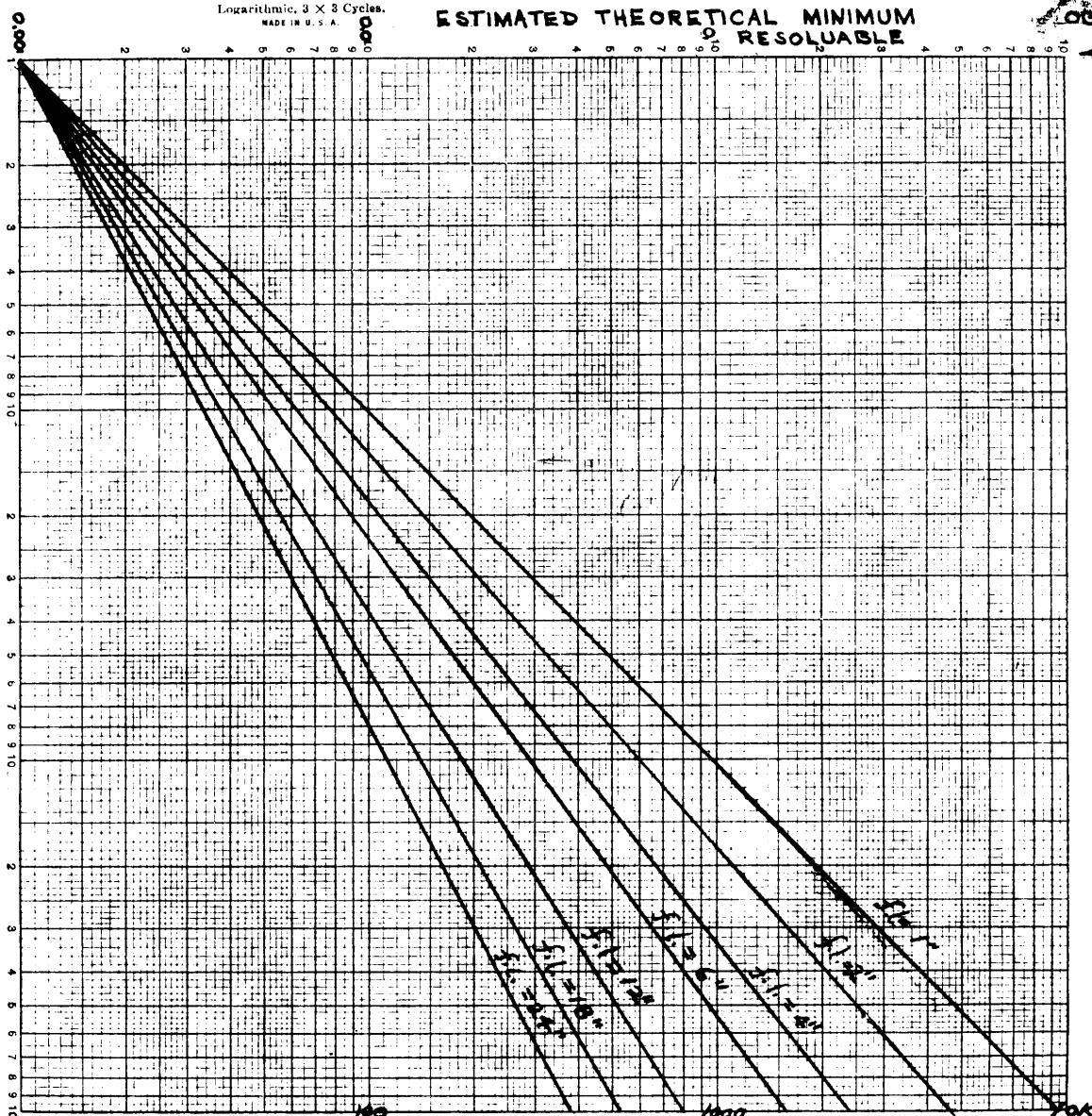
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Logarithmic, 3 X 3 Cycles.  
MADE IN U. S. A.

**ESTIMATED THEORETICAL MINIMUM  
RESOLUBLE**

OBJECT - FEET  
← 10 MM/RB/MM  
(APPROX.)

OBJECT DISTANCE - S (FEET)

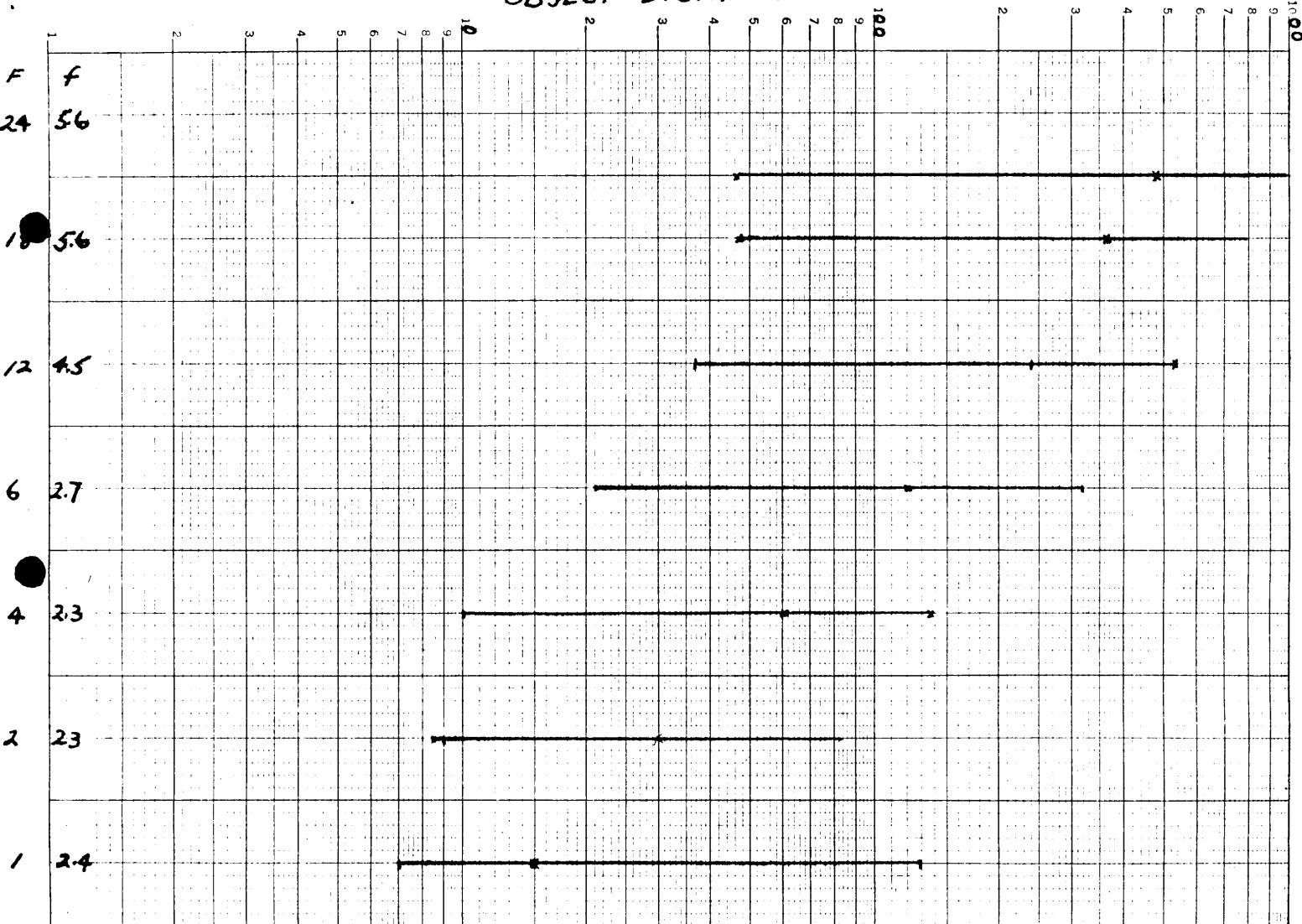


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3 CYCLES X 70 DIVISIONS

OBJECT DISTANCE - FT.

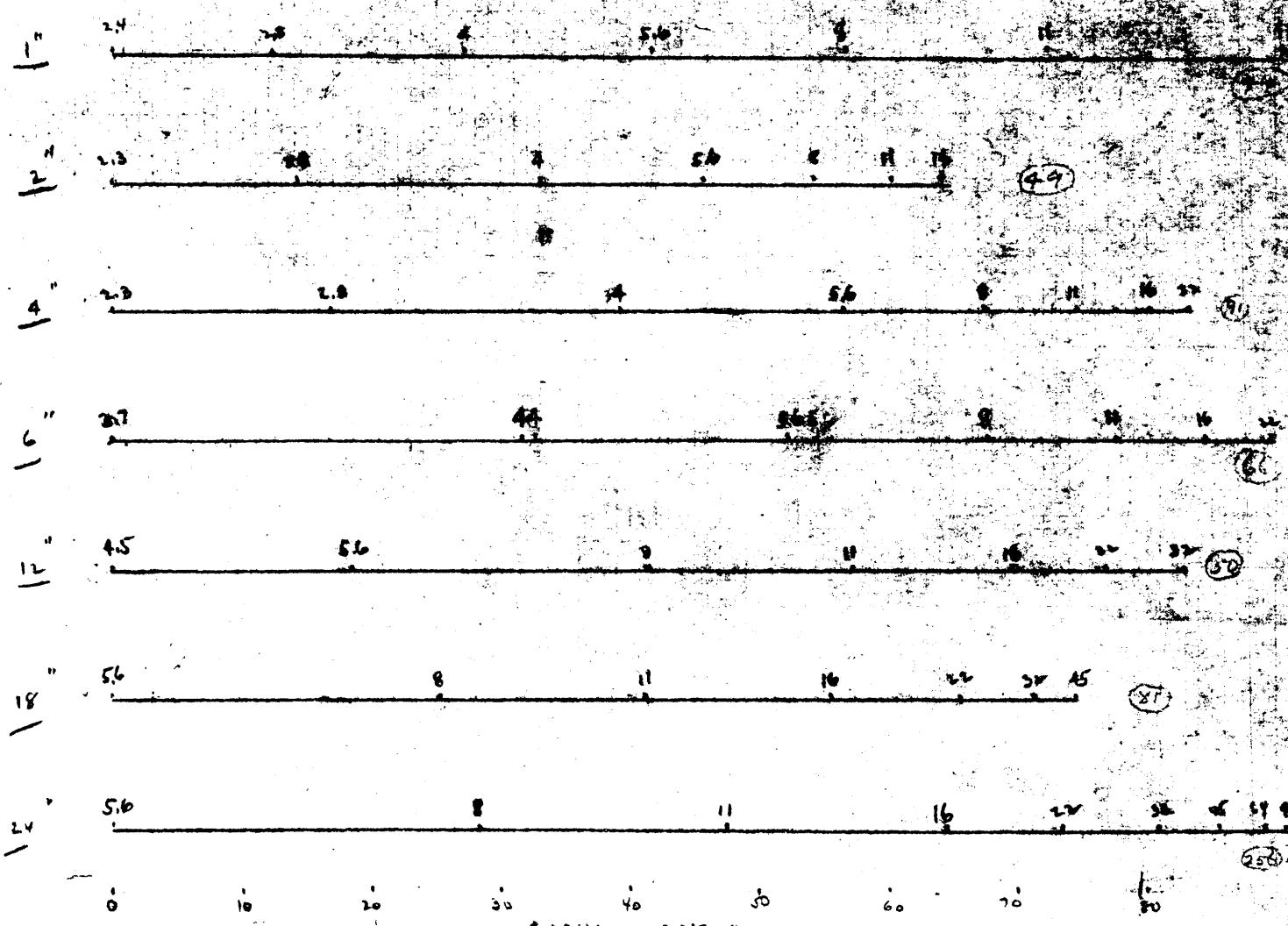
1000



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FL.  
SHEET NO. OF 1  
JOB NO. MMI  
SUBJECT  
DATE  
BY  
CHKD. BY  
DATE



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CHKD. BY ..... DATE .....

JOB NO. ....

## Depth of Field Calculation for CD-182 lens

$$D = \text{Depth of field} = D_N + D_F$$

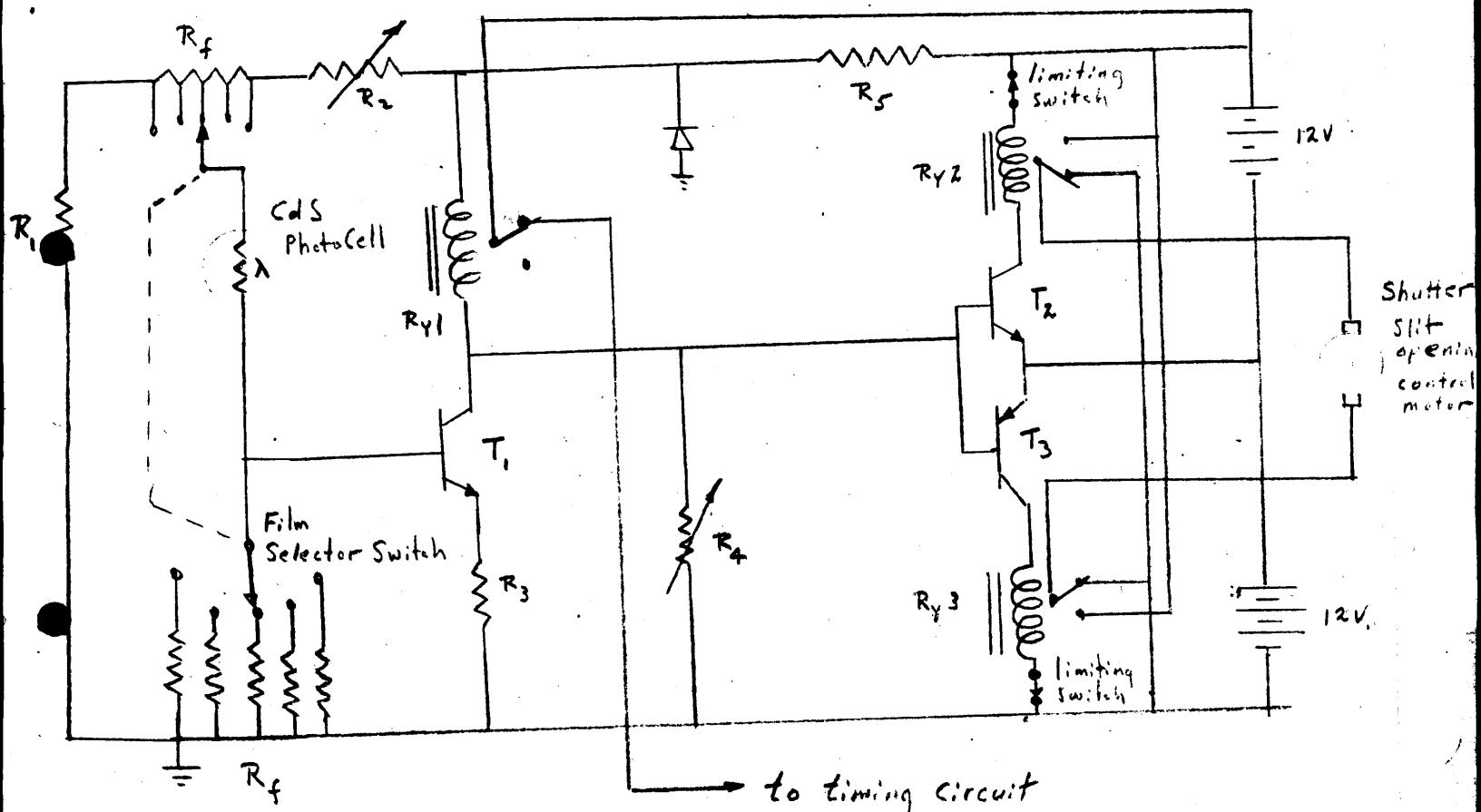
$$D_N = \frac{HS}{H+5} \quad D_F = \frac{HS}{H-5}$$

$$H = \text{hyperfocal distance} = \frac{F^2}{fC} \times 0.083$$

for  $C = 0.002 \quad = 91.5 F^2/f$

F	f	S	H	HS	<del>1000</del>	S+H	D <sub>N</sub>	D <sub>F</sub>	D
1"	2.4	15	17.3	360	23	32.3	113	8	121
2"	2.3	30	72	2860	42	102	51.5	21.6	73
4"	2.3	40	289	1700	229	349	26	50	126
6"	2.1	564	6300	3	434	674	199	99	298
12"	4.5	240	1330	3000	1090	1570	293	203	496
18"	5.6	360	2400	3.66710 <sup>6</sup>	2040	2760	424	313	737
24"	5.6	480	4270	2.064910 <sup>6</sup>	3790	4750	543	434	977

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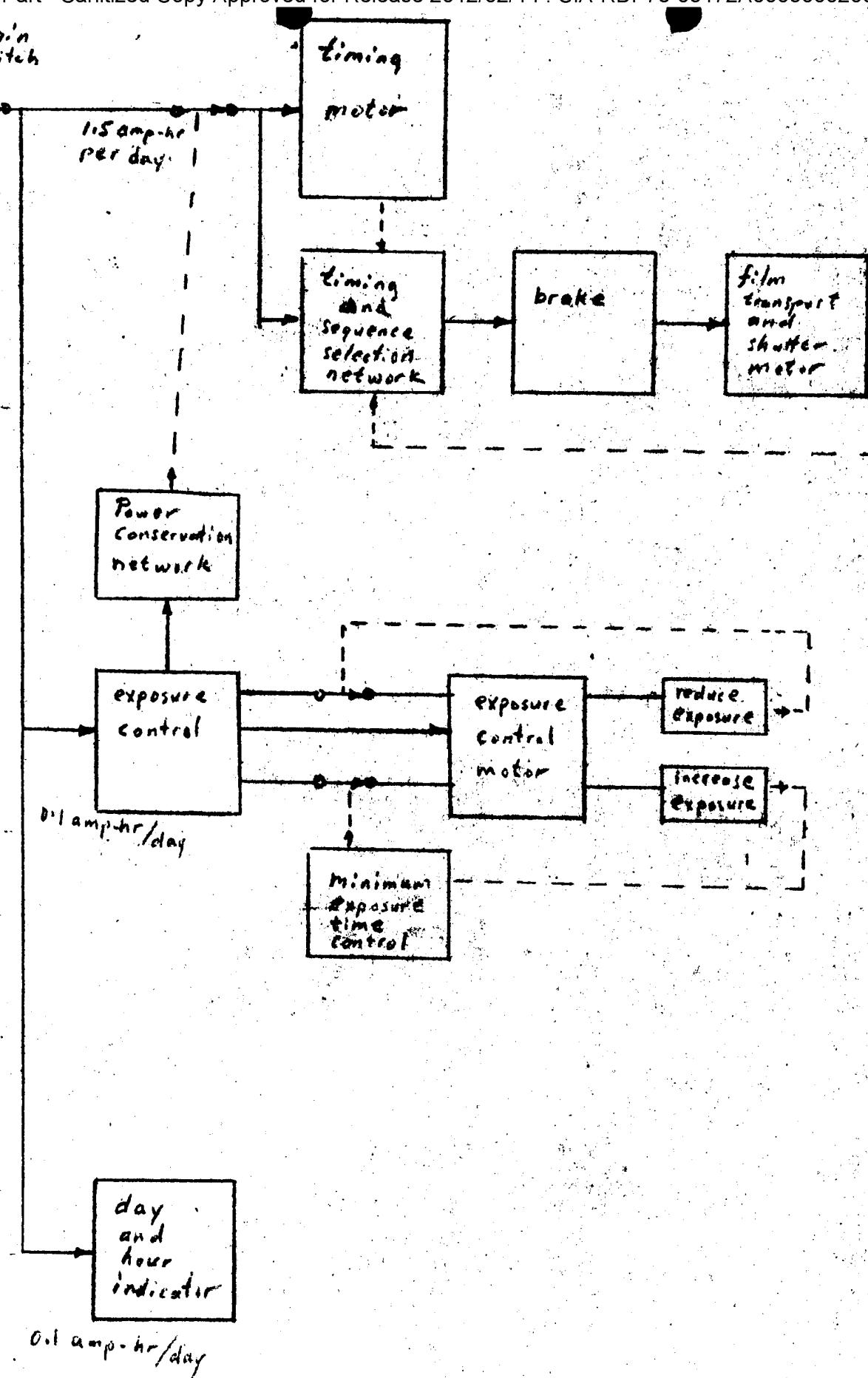
Automatic Exposure Control Circuit Diagram

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10-23-57

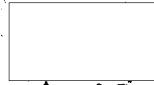
Main  
Switch

24V

15-60  
Amp-hr

STAT

CD-182 System Block Diagram



10-23-157

STAT

Nº 7838

STAT

TO:

DATE: 10-17-57

CD-182 Battery Recommendation**A. Requirements**

1. 100 ma. continuous operation 15 hr./day
2. 900 ma 1-sec duration 800 times per day
3. 24 V. with center tap
4. continuous operation unmanned for 15 days

**B. Type of cell that may satisfy the needed.**

	HR-15	LR-20	LR-40
Days of operation	9.4	12.5	25
cost (15cells)	\$480	\$980	\$640
volume, in <sup>3</sup> /cell	9.25	15.18	32.02
wt. oz/cell	9.7	13.2	22.6

**C. Recommendation**

For stationary operations capacity is more important than volume and weight. LR-20 is recommended over HR-15 since for the same cost LR-20 provides 30% more capacity.

If the capacity of LR-20 is not sufficient to meet the mission requirements LR-40 may be satisfactory.